

# Contents

## Letters to the Editor

- Generation of shocks by radiation pressure on newly formed circumstellar dust  
*Fleischer, A.J., Gauger, A., Sedlmayr, E.* L1
- Interplanetary transport of solar cosmic rays and dissipation of Alfvén waves  
*Schlickeiser, R., Dung, R., Jaekel, U.* L5
- H $\alpha$  absorption in the type-Ia supernova 1990 M during its early phase  
*Polcaro, V.F., Viotti, R.* L9
- Inference of "bumps" in electron energy spectra from high resolution X-ray bremsstrahlung spectra  
*Brown, J.C., MacKinnon, A.L., van den Oord, G.H.J., Trotter, G.* L13
- Concerning the reddening of the Magellanic Clouds  
*Bessell, M.S.* L17

## Cosmology

- Against the  $\ln(1+z) \approx 0.205$  periodicity in quasar redshifts  
*Scott, D.* 1
- (RN) Analytic volumes and maximum volumes for any  $q_0$  in standard Friedmann cosmology  
*Mathez, G., Kassiola, A., Lachièze-Rey, M.* 13

## Extragalactic astronomy

- A Malmquist corrected color-magnitude relation for spiral galaxies  
*Christensen, J.H.* 17
- X-ray observations of the broad line radio galaxy 3C 382: variability, an iron line and soft X-ray emission  
*Kastra, J.S., Kunieda, H., Awaki, H.* 27
- M81: CO content and interaction with its companion galaxies  
*Brouillet, N., Baudry, A., Combes, F., Kaufman, M., Bash, F.* 35
- Relationship between FeII and radio emission in active galactic nuclei  
*Joly, M.* 49
- Morphology and kinematics of the pair of interacting elliptical galaxies NGC 4782 and NGC 4783  
*Madejsky, R., Bender, R., Möllenhoff, C.* 58
- Photometric observations of the warped disks of NGC 4013, NGC 4565 and NGC 6504  
*Florido, E., Prieto, M., Battaner, E., Mediavilla, E., Sanchez-Saavedra, M.L.* 301
- 1803+784: a BL Lacertae object with remarkable radio properties  
*Strom, R.G., Biermann, P.L.* 313

- A possible origin of the superluminal knots  
*de Gouveia Dal Pino, E.M., Opher, R.* 319
- A rotation curve study of the dwarf Sc galaxy UGC 2259  
*González-Serrano, J.I., Valentijn, E.A.* 334
- Evolutionary synthesis models of star bursts in blue compact dwarf galaxies  
*Krüger, H., Fritze-von Alvensleben, U., Loose, H.-H., Fricke, K.J.* 343
- The nuclear HII gas in the star-burst galaxy NGC 3310 – extended radial motions or a merger?  
*Grothues, H.G., Schmidt-Kaler, T.* 357
- First detection of molecular gas near the center of M81  
*Sage, L.J., Westpfahl, D.J.* 371

## Galactic structure and dynamics

- Hydrodynamics in a collapsing gaseous protogalaxy  
*Hiotelis, N., Voglis, N., Contopoulos, G.* 69
- The solar motion. I. From radial velocities  
*Jaschek, C., Valbousquet, A.* 77
- A three-fluid static galactic halo model in flux-tube formulation  
*Chung-Ming Kuo* 85
- The HII region G 0.18-0.04: ionization of a molecular cloud by impact with a strong magnetic field  
*Serabyn, E., Güsten, R.* 376

## Formation, structure and evolution of stars

- The relative numbers of Wolf-Rayet stars in galaxies with active star formation: the metallicity effect  
*Maeder, A.* 93
- Spot variability of solar-type stars in the Pleiades. I. The G2/V-type stars HII-314, HII-996, and HII-1207  
*Panov, K.P., Geyer, E.H.* 112
- Separation of the polarization modes in PSR 0823+26  
*Gil, J.A., Snakowski, J.K., Stinebring, D.R.* 119
- (RN) Is it possible to evaporate the companion stars of ultra-rapid pulsars?  
*Ergma, E.V., Fedorova, A.V.* 125
- Radio pulsars and the scale height of ionized hydrogen  
*Bhattacharya, D., Verbunt, F.* 128
- Infrared and optical CCD images of the young cluster associated with GM 24  
*Tapia, M., Roth, M., López, J.A., Rubio, M., Persi, P., Ferrari-Toniolo, M.* 388
- CCD photometry of the SU Ursae Majoris cataclysmic variable SS Ursae Minoris (PG 1551+719)  
*Chen, J.-S., Liu, X.-W., Wei, M.-Z.* 397

Walraven photometry of WX Hydri during quiescence and outburst <i>Kuulkers, E., Hollander, A., Oosterbroek, T., van Paradijs, J.</i>	401	Ammonia formation and the ortho-to-para ratio of H <sub>2</sub> in dark clouds <i>Le Bourlot, J.</i>	235
Subluminous WR and luminous blue variable stars <i>Lortet, M.-C.</i>	410	Phosphorus chemistry in dense interstellar clouds <i>Millar, T.J.</i>	241
Distribution of turned-off pulsars and consequences for gamma-ray burst sources <i>Greiner, J.</i>	417	CO observations of southern protoplanetary nebulae with optical counterparts <i>Bujarrabal, V., Bachiller, R.</i>	247
Optical outburst image inside the gamma-ray burst source 0008 + 13 error box <i>Greiner, J., Naumann, C., Wenzel, W.</i>	425	Correlation between the very broad structure and the continuum in FUV extinction curves <i>Reimann, H.-G., Friedemann, C.</i>	474
Infrared imaging photometry of binary T Tauri stars <i>Moneti, A., Zinnecker, H.</i>	428	<b>The Sun</b>	
Variability of the post-AGB star HR 4049: dust obscuration in a binary system <i>Waelkens, C., Lamers, H.J.G.L.M., Waters, L.B.F.M., Rufener, F., Trams, N.R., Le Bertre, T., Ferlet, R., Vidal-Madjar, A.</i>	433	Collisional scattering of fast electrons in a coronal magnetic bottle <i>MacKinnon, A.L.</i>	256
<b>Stellar atmospheres</b>		Phases and amplitudes of acoustic-gravity waves. I. Upward and downward solutions <i>Marmolino, C., Severino, G.</i>	271
Temperature and density dependence of the Lyman $\alpha$ line wing in hydrogen-rich white dwarf atmospheres <i>Allard, N., Kielkopf, J.</i>	133	Angular velocities of sunspot-groups and solar photospheric rotation <i>Zappalà, R.A., Zuccarello, F.</i>	480
Numerical simulation of photospheric convection in solar-type stars. I. Hydrodynamical test calculations <i>Reile, C., Gehren, T.</i>	142	Vibration-rotation bands of CH in the solar infrared spectrum and the solar carbon abundance <i>Grevesse, N., Lambert, D.L., Sauval, A.J., van Dishoeck, E.F., Farmer, C.B., Norton, R.H.</i>	488
The Spacelab-1 Very Wide Field Survey of UV-excess objects. II. Analysis of 7 stars of various nature <i>Viton, M., Deleuil, M., Tobin, W., Prévot, L., Bouchet, P.</i>	175	<b>The solar system</b>	
Carbon and nitrogen abundances in the BN supergiant HD 93840, and their implications for normal Galactic supergiants <i>Massa, D., Altner, B., Wynne, D., Lamers, H.J.G.L.M.</i>	188	A comparison of two pole determination methods for asteroids <i>Tancredi, G., Gallardo, T.</i>	279
The overall flux distribution of magnetic chemically peculiar stars <i>Leone, F., Catalano, F.A.</i>	199	Polarimetry of comet P/Halley: properties of dust <i>Sen, A.K., Deshpande, M.R., Joshi, U.C., Rao, N.K., Raveendran, A.V.</i>	496
Magneto-optical effects from free electrons in magnetic white dwarfs <i>Jordan, S., O'Connell, R.F., Koester, D.</i>	206	<b>Physical and chemical processes</b>	
Long-term behaviour of starspots. I. Polar starspots, rotational modulation and flare activity of V833 Tauri <i>Oláh, K., Pettersen, B.R.</i>	443	(RN) Turbulence induced relative velocity between two grains <i>Markiewicz, W.J., Mizuno, H., Völk, H.J.</i>	286
An automatic curve-of-growth method. Application of the T Tauri star Sz 19 <i>Franchini, M., Castelli, F., Stalio, R.</i>	449	Optically thin accretion discs <i>Dumont, A.M., Collin-Souffrin, S., King, A.R., Lasota, J.P.</i>	503
Study on the non-LTE effect of Fe in stellar atmospheres: application to Arcturus <i>Takeda, Y.</i>	455	Investigation of the equation of state of astrophysical bodies by the LMTO method <i>Godon, P., Shaviv, G., Ashkenazi, J., Kovetz, A.</i>	510
<b>Diffuse matter in space (including HII regions and planetary nebulae)</b>		<b>Instruments, data processing, and computational methods</b>	
Observational properties of $v=1, J=1 \rightarrow 0$ SiO masers <i>Jewell, P.R., Snyder, L.E., Walmsley, C.M., Wilson, T.L., Gensheimer, P.D.</i>	211	Fast solution of radiative transfer problems using a method of multiple grids <i>Steiner, O.</i>	290
		Error analysis of lightcurve periods <i>Karttunen, H., Muinonen, K.</i>	513
		<b>Papers accepted for publication in A. &amp; A.</b>	521

